MN PUC MISO Utilities Quarterly Meeting

2014-2015 Winter Operation

March 20, 2015

2014-2015 Winter Operations

- **Overall mild winter compared to the polar vortex events of 2013-2014**
- **MISO load peaked on January 8, 2015 at 106.5 GW**
  - January 2014 peak was 109.3 GW
- **Multiple all-time wind peaks occurred during the winter season**
  - All time wind peak coincided with same day as load peak at 11.9 GW
  - Previous wind peak for the winter season was 10.7 GW
- **Generation and transmission performed well**

Lessons Learned contributed to reliable winter

- Coordination between electric and natural gas industries
- MISO website for gas pipeline critical notices
- Additional information regarding Demand Response availability
- ‘Message from MISO’ posted online to remind asset owners to weatherize generating units per NERC’s recommendations
- Additional cause codes for more accurate post-event analysis of unit outages and de-rates
- Reviewed coordination activities with neighboring entities
- Conducted Winter Readiness Workshop
- Short term waiver of $1000 Offer Cap

MN PUC MISO Utilities Quarterly Meeting

Energy Offer Cap Evaluation

March 20, 2015

Background

- Energy Offer Caps of $1000 have been in place since market start (April 2005)
  - These serve as one tool to mitigate potential misuse of market power
- Energy Offer Caps should not
  - Create disincentives for resources to make themselves available when needed
  - Create disincentives for investment in appropriate generation

Analysis

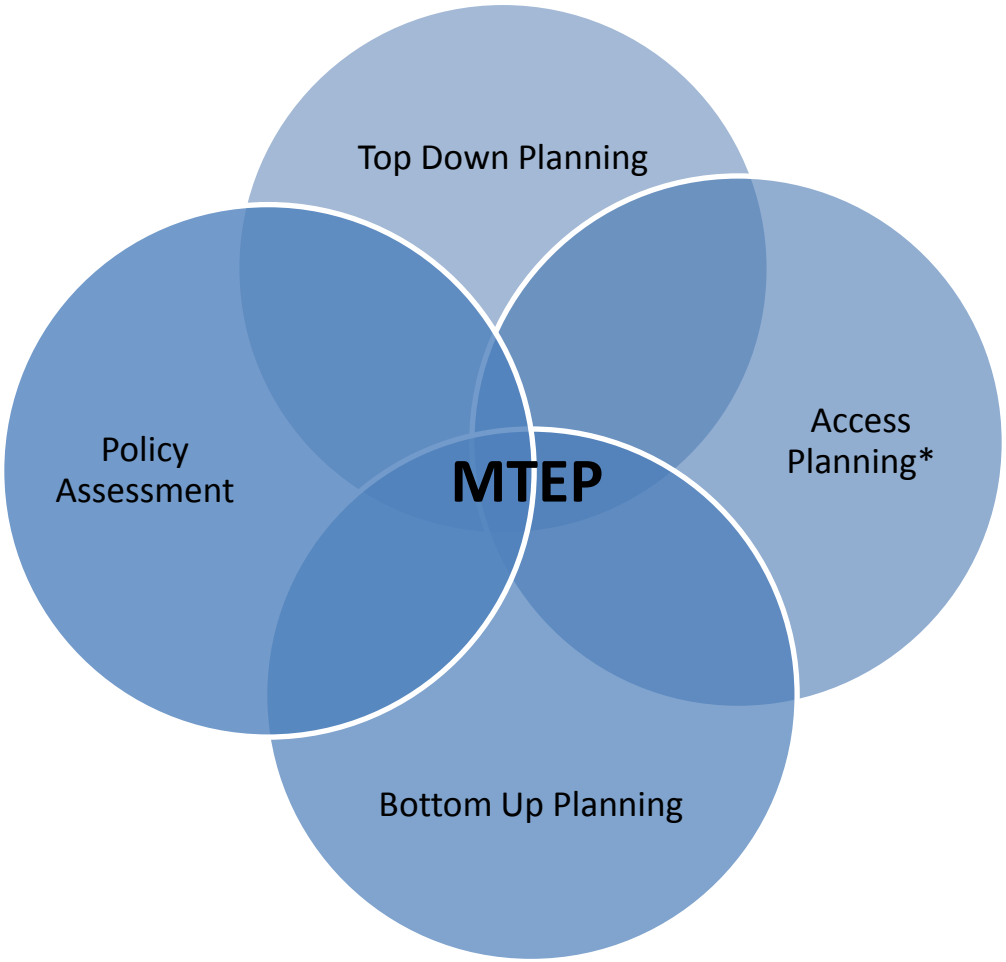
- Evidence exists that some resources in some cases have costs that exceed the existing Offer Cap, inhibiting participation
- Costs in excess of $1000 should be allowed to be reflected in offers and in MISO's market prices.
- Investigation is ongoing regarding potential changes to the offer cap
  - How should the revised Energy Offer Cap be established?
  - What's its relationship to the MISO Price Cap at the assumed Value of Lost Load (VOLL currently at $3,500/MWh)?
  - Collaboration with other RTO/ISOs on resolutions is ongoing.

MN PUC MISO Utilities Quarterly Meeting

MTEP 15 MN Overview

March 20, 2015

MISO Transmission Expansion Plan (MTEP)



*Access Planning includes both the long term Transmission Service Queue and the Generator Interconnection Queue

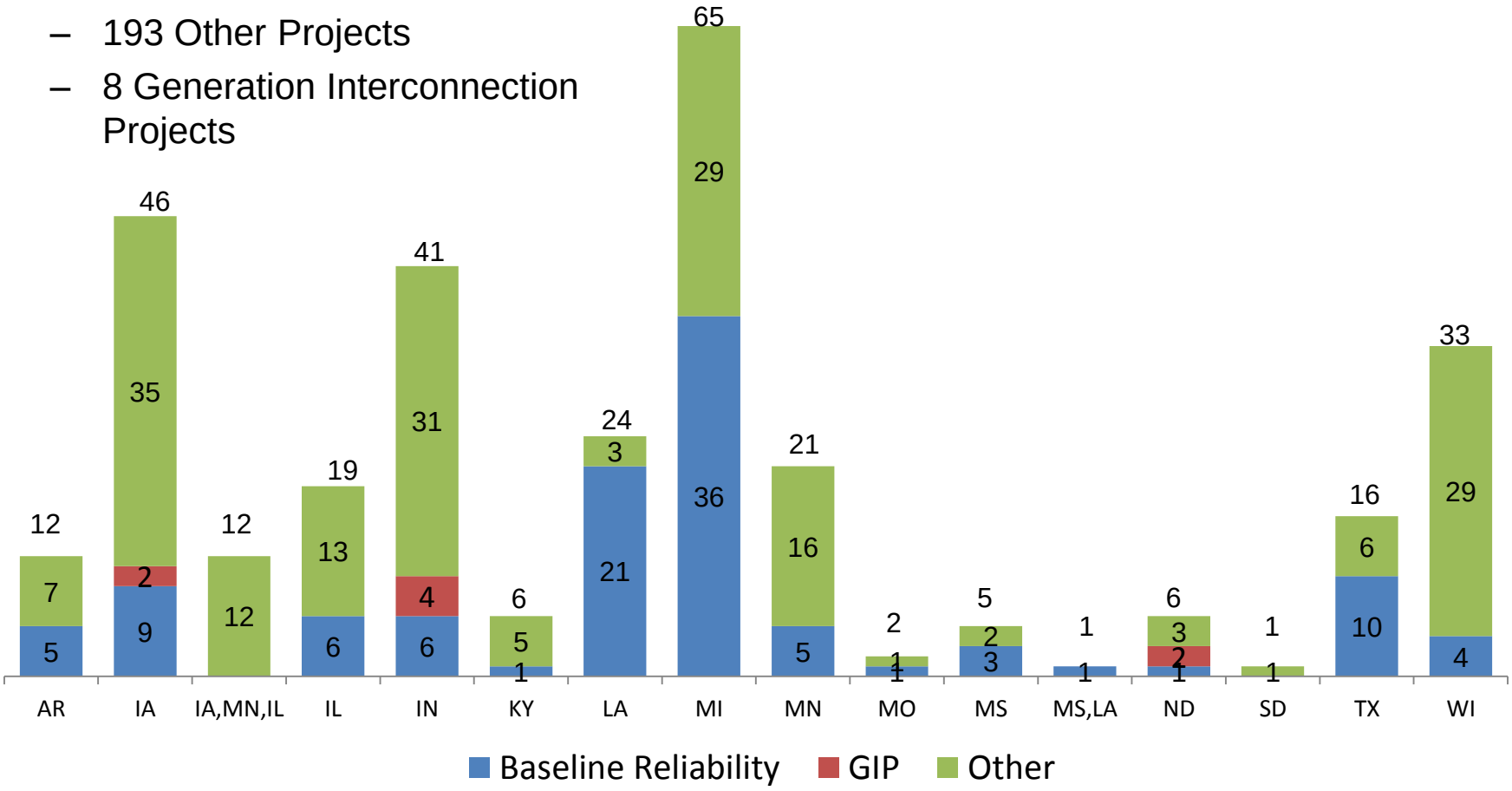
- The MTEP is the culmination of all planning efforts performed by MISO during a given planning cycle
- An annual report is produced, with most projects being approved in December
- Establishes the recommended regional plan that integrates expansion based on reliability, transmission access, market efficiency, public policy and other value drivers across all planning horizons

In MTEP15 – 310 projects are targeted for Appendix A

Preliminary

Of these projects:*

- 109 Baseline Reliability Projects
- 193 Other Projects
- 8 Generation Interconnection Projects



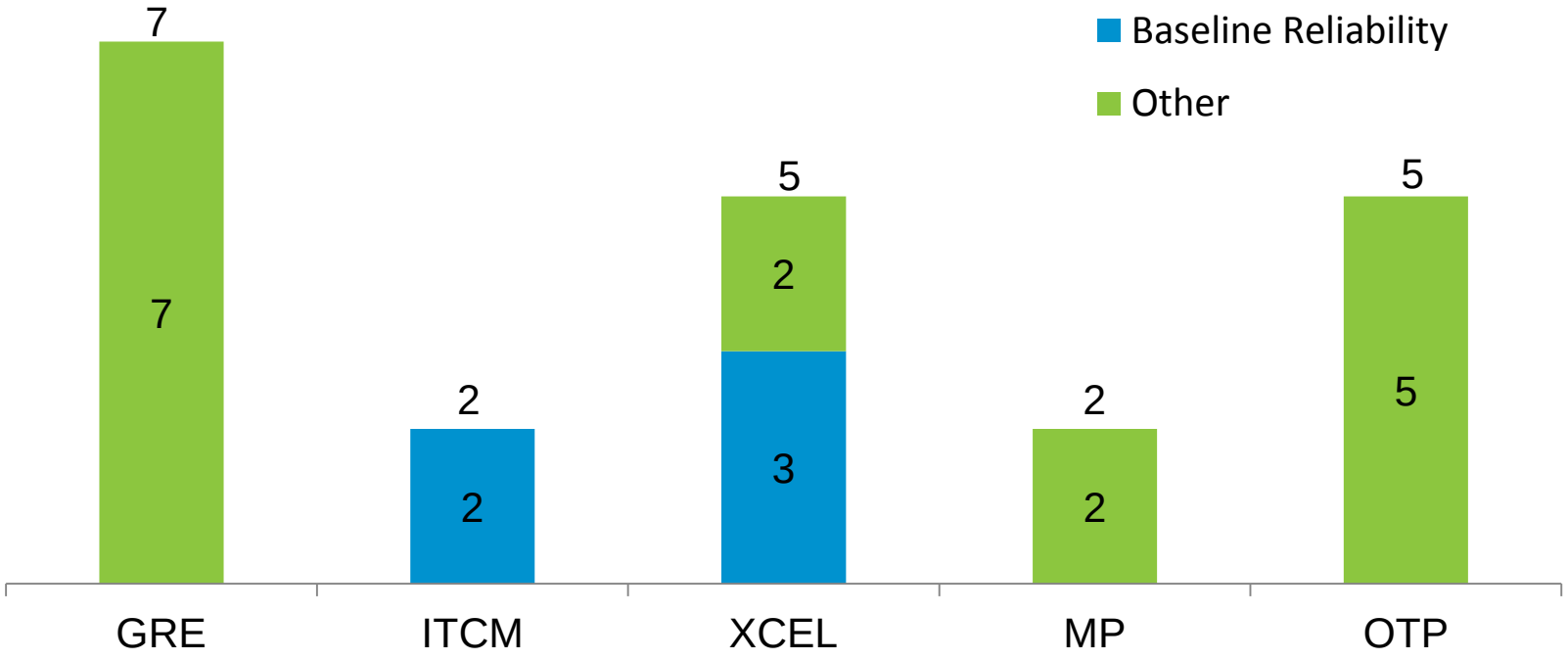
*Statistics do not reflect all economic projects, GIPs, or TDSPs, currently under evaluation through separate planning processes

In MTEP15 – 21 projects in Minnesota are targeted for Appendix A

Preliminary

Of these projects:*

- 5 Baseline Reliability Projects
- 16 Other (Local Reliability) Projects



MN Utilities Projects targeted for MTEP15 Appendix A (Project Count)

*Statistics do not reflect economic projects, GIPs, or TDSPs, currently under evaluation through separate planning processes

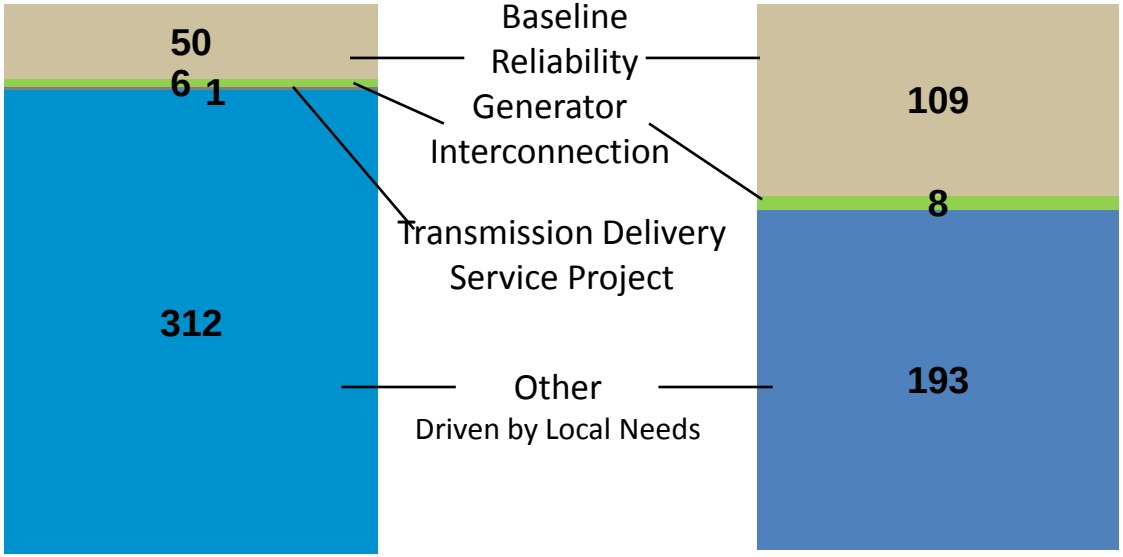
Compared to 2014, similar number of projects are targeted for 2015 Appendix A, at a cost estimate of $1.9 billion

MTEP 2014
Approved Appendix A

Project Count – 369
Project Cost - $2.5 billion*

Preliminary MTEP 2015
Targeted Appendix A

Project Count – 310**
Project Cost - $1.9 billion**



***MTEP14 Totals reflect the Great Northern Transmission Line (GNTL), a Transmission Delivery Service Project at a cost of $676 million**

****MTEP15 Statistics do not reflect all economic projects, GIPs, or TDSPs, currently under evaluation through separate planning processes**

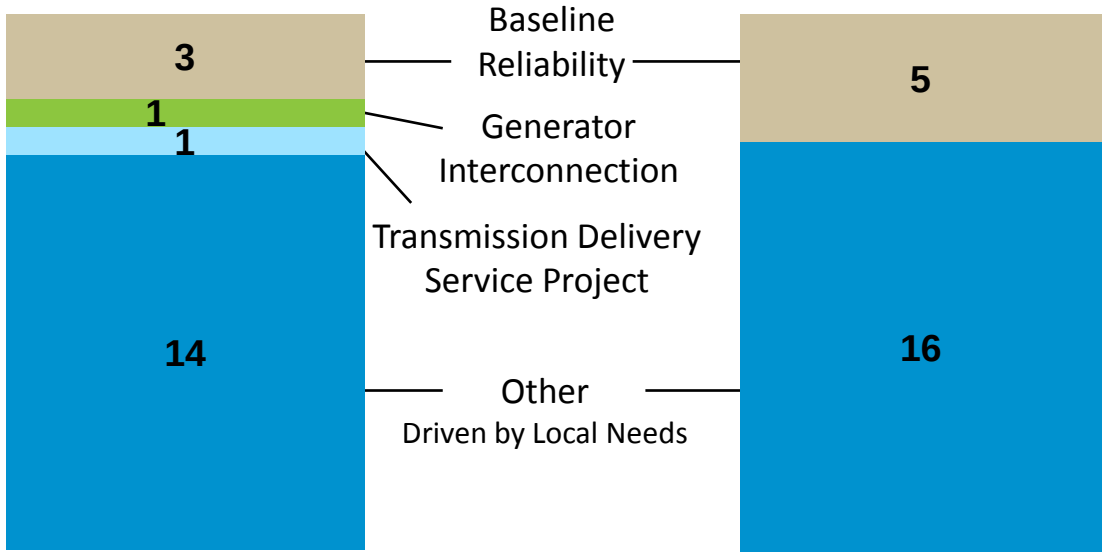
Compared to 2014, similar number of projects in Minnesota are targeted for 2015 Appendix A at a much lower cost estimate

MTEP 2014
Approved Appendix A

Project Count – 19
Project Cost - $720 million*

Preliminary MTEP 2015
Targeted Appendix A

Project Count – 21**
Project Cost - $40 million**



***MTEP14 Totals reflect the Great Northern Transmission Line (GNTL), a Transmission Delivery Service Project at a cost of $676 million**

****MTEP15 Statistics do not reflect all economic projects, GIPs, or TDSPs, currently under evaluation through separate planning processes**